

**REMARKS**

Reconsideration of this application is respectfully requested. Claims 13-25 and 28-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S Patent No. 6,181,840 by Huang et al. ("Huang") in view of U.S Patent No. 6,430,342 to Kim et al. ("Kim"). Claims 1, 2, 10, 31, 32, 33, and 34 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Huang. Claims 3-4, 6-9, 11-12, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of Official Notice taken by the Examiner. Claims 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of Kim and further in view of Official Notice taken by the Examiner. Claims 3 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of U.S Patent No. 5,982,963 by Feng et al. ("Feng").

Claims 1, 31, and 34 have been amended. No claims have been added or canceled. An information disclosure statement is also being submitted with this amendment.

The Examiner has rejected claims 13-25 and 28-30 under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of Kim. The Examiner states the following:

Huang discloses an acousto-optic apparatus . . . but fails to explicitly disclose an offset core.

Kim teaches an acousto-optic apparatus that can use various types of optical fiber (Column 5, Lines 19-28) including a single mode, jacket encased dispersion compensation fiber with a section removed which inherently would have an offset core.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Huang to include an single mode offset core optical fiber taught by Kim in order to better manage polarization and prevent losses from optical transmission. A removed jacket portion helps to assist in microbending.

(Office Action pages 5-6)(emphasis added).

However, applicants respectfully asserts that claim 13 is not obvious in view of Huang and Kim under 35 U.S.C. § 103(a). Independent claim 13 states:

13. An apparatus, comprising:  
an optical waveguide having an interaction region containing a fiber Bragg grating, a cladding, and a core offset in respect to the cladding;  
and . . .

(emphasis added)

Kim discloses:

[T]he jacket of the optical fiber is stripped, and the optical fiber is then fixed by two optical fiber fixing boards.

(Kim Col. 5, Lns. 26-28)

However, applicants respectfully disagrees with the Examiner's assertion that removing a jacket inherently makes a core of a waveguide offset with respect to the cladding. The jacket is a protective insulation layer around the cladding. If a core is centered with respect to the cladding, then merely removing the protective insulation layer around the cladding will not affect the relationship between the core and the cladding. Kim does not illustrate a core offset in respect to the cladding. In fact, Kim in the figures illustrating an optical fiber only illustrates centered cores. Figures 3-5 of Kim illustrate an optical fiber having a core centered with respect to the cladding. Accordingly, Kim also does not suggest a reason to make a core offset in respect to the cladding. As acknowledged by the Examiner, Huang does not disclose a core offset in respect to the cladding. Therefore, Huang cannot suggest a reason to make a core offset in respect to the cladding.

Therefore, in view of the above distinction, neither Kim nor Huang, individually or in combination, disclose each and every limitation of claim 13. Further, neither Kim nor

Huang provide adequate motivation to combine to suggest each and every limitation of claim 13. As such, claim 13 is not rendered obvious by Kim in view of Huang under 35 U.S.C. § 103(a). It would be impermissible hindsight based on Applicant's own disclosure to combine Kim with Huang based on applicants' own disclosure. As such, independent claim 13 is not obvious in view of a combination of Kim and Huang.

Given that claims 14-25 and 28-30 depend from and include the limitations of claim 13, applicants submit that claims 14-25 and 28-30 are not obvious under 35 U.S.C. § 103(a) in view of Kim and Huang.

The Examiner has rejected claims 1, 2, 10, 31, 32, 33, and 34 under 35 U.S.C. § 102(b) as being anticipated by Huang. However, applicant respectfully asserts that claim 1, as amended, is not anticipated by Huang under 35 U.S.C. § 102(b). Claim 1, as amended, states:

1. A method, comprising:  
microbending a fiber Bragg grating located in an optical waveguide having a core offset in respect to the cladding with a transverse acoustic wave;

(emphasis added)

As acknowledged above by the Examiner, Huang does not disclose a core offset in respect to the cladding. As such, independent claim 1, as amended, is not anticipated by Huang under 35 U.S.C. § 102(b).

Given that claims 2 and 10 depend from and include the limitations of claim 1, applicants submit that claims 2 and 10 are not anticipated by Huang under 35 U.S.C. § 102(b).

Likewise, independent claim 31 states:

31. An apparatus, comprising:

an optical waveguide having an interaction region, a core, and a cladding, wherein the interaction region containing contains a fiber Bragg grating to allow coupling between optical modes in the optical waveguide, the core is offset with respect to the cladding, and.

(emphasis added)

As acknowledged above by the Examiner, Huang does not disclose a core offset with respect to the cladding. As such, independent claim 31, as amended, is not anticipated by Huang under 35 U.S.C. § 102(b).

Given that claims 32 and 33 depend from and include the limitations of claim 31, applicants submit that claims 32 and 33 are not anticipated by Huang under 35 U.S.C. § 102(b).

Likewise, independent claim 34 states:

34. An apparatus, comprising:  
means for microbending a fiber Bragg grating located in an optical waveguide having a core offset with respect to the cladding with a transverse acoustic wave.

(emphasis added)

As acknowledged above by the Examiner, Huang does not disclose a core offset with respect to the cladding. As such, independent claim 34, as amended, is not anticipated by Huang under 35 U.S.C. § 102(b).

The Examiner has rejected claims 3-4, 6-9, 11-12, and 36-37 under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of Official Notice taken by the Examiner as features inherently obvious. However, as discussed above Huang does not disclose or suggest the limitations included in independent claim 1.

Given that claims 3-4, 6-9, and 11-12 depend from and include the limitations of claim 1, applicants submit that claims 3-4, 6-9, and 11-12 are not obvious under 35 U.S.C. § 103(a) in view of the Official Notice taken by the Examiner and Huang.

Given that claim 36 and 37 depend from and include the limitations of claim 34, applicants submit that claims 36 and 37 are not obvious under 35 U.S.C. § 103(a) in view of the Official Notice taken by the Examiner and Huang.

Applicants also respectfully traverse the Official Notice taken by the Examiner and request documentary evidence disclosing the limitations of claims 3-4, 6-9, 11-12, and 36-37 per the PTO guidelines.

The Examiner has rejected claims 26 and 27 under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of Kim and further in view of Official Notice taken by the Examiner as features inherently obvious. However, as discussed above, Huang does not disclose or suggest the limitations included in independent claim 13.

Given that claims 26 and 27 depend from and include the limitations of claim 13, applicants submit that claims 26 and 27 are not obvious under 35 U.S.C. § 103(a) in view of the combination of the Official Notice taken by the Examiner, Kim, and Huang.

Applicants also respectfully traverse the Official Notice taken by the Examiner and request documentary evidence disclosing the limitations of claims 26 and 27.

The Examiner has rejected claims 3 and 36 under 35 U.S.C. § 103(a) as being unpatentable over Huang in view of Feng. As acknowledged above by the Examiner, Huang does not disclose a core offset in respect to the cladding. Applicants respectfully assert that Feng does not disclose a core offset in respect to the cladding. As such,

independent claim 1, as amended, is not obvious in view of Huang and Feng under 35 U.S.C. § 103(a).

Given that claim 3 depends from and includes the limitations of claim 1, applicants submit that claim 3 is not obvious under 35 U.S.C. § 103(a) in view of Feng and Huang.

Likewise, independent claim 34, as amended, is not obvious in view of Huang and Feng under 35 U.S.C. § 103(a). As acknowledged above by the Examiner, Huang does not disclose a core offset in respect to the cladding. Applicants respectfully assert that Feng does not disclose a core offset in respect to the cladding.

Given that claim 36 depends from and includes the limitations of claim 34, applicants submit that claim 36 is not obvious under 35 U.S.C. § 103(a) in view of Feng and Huang.

**Conclusion**

It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections and objections have been overcome. A petition for an extension of time is submitted with this amendment. Applicants reserve all rights with respect to the application of the doctrine equivalents. If there are any additional charges, please charge them to our Deposit Account No. 02-2666.

Respectfully submitted,

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Dated: 10-6-03

  
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